CLAIMS

What is claimed as new and desired to be protected by Letters Patent of the

United States is:

1.      A computer system computer application screen fingerprinter, said computer

5    system comprising:

a processor;

a computer memory coupled to said processor; and

a screen fingerprinter stored in said computer memory, wherein said fingerprinter

selects at least one region and/or pattern of the screens of the presentation space of a

10   computer application to be captured such that said at least one region and/or pattern of

each screen is unique.

2.      A computer system as in claim 1, wherein said fingerprinter allows a user to

modify which portion of a screen comprises said region and/or pattern and which

attributes of said region and/or pattern to examine.

15       3.      A computer system as in claim 1, wherein said fingerprinter creates a decision

tree based on said at least on region and/or pattern such that after each screen is compared

to the region or pattern at each decision node, a screen identifier will come to a different

end node of said decision tree for each screen.

4.      A computer system as in claim 3, wherein said fingerprinter allows a user to modify said decision tree by modifying the comparisons at the decision nodes.

5.      A computer system computer application state recorder, said computer system comprising:

5        a processor;

a computer memory coupled to said processor; and

a state recorder stored in said computer memory, wherein said state recorder records in said computer memory a planned domain file which comprises each screen of the presentation layer of a computer application, the keystrokes necessary to reach each state,

10     the available actions from each state of each screen and the effect of any actions available in each state through navigating said computer application in said user interface.

6.      A computer system as in claim 5, wherein said processor generates said file while a user navigates said another computer system in said user interface.

7.      A computer system as in claim 5, wherein said processor generates said file

15     while automatically navigating said another computer system.

8.      A computer system as in claim 5, wherein a fingerprint of each screen is included in said file.

9.   A computer system as in claim 5, wherein pre-conditions and post-conditions for each state are included in said file.

10.   A computer system navigation planner, said computer system comprising;

a processor;

5     a computer memory coupled to said processor;

at least one computer application model stored in said computer memory; and

a navigation planner stored in said computer memory;

wherein when said navigation planner receives a problem statement, said navigation planner accesses said at least one computer application model to create a plan of solving

10   said problem statement and executes said plan.

11.   A computer system as in claim 10, wherein when said plan fails, said navigation planner creates a new and different plan to solve said problem statement.

12.   A computer system computer application model generator, said computer system comprising:

15   a processor;

a fingerprinter;

a recorder; and

a user interface;

wherein said fingerprinter selects at least one region and/or pattern of the screens of the presentation space of a computer application to be captured such that said at least one region and/or pattern of each screen is unique;

wherein said state recorder records in said computer memory a planned domain file

5    which comprises each screen of the presentation layer of a computer application, the keystrokes necessary to reach each screen, a fingerprint of each screen, the available actions from each screen and the effect of any actions available in each screen through navigating said computer application in said user interface.

wherein additional relationships between said screen can be input through said user

10   interface such that said computer application model generator can model said computer application.

13.    A computer system computer application integrator, said computer system comprising:

a processor;

15   a computer memory;

a runtime agent stored in said computer memory; and

at least one computer application model stored in said computer memory, said model modeling at least one computer application;

wherein when said processor receives a problem statement, said runtime agent

20   accesses said at least one computer application model to intelligently reason out a goal-

oriented plan and accesses the modeled computer applications to execute the tasks

necessary to solve said problem statement.

14.   A method of uniquely identifying the screens of the presentation layer of a

computer application comprising the steps of:

5        taking a screen capture of each screen of the presentation layer of a computer

application;

selecting areas of said screen captures to be examined for the presence of an attribute

in said area; and

creating a decision tree such that each of said screen captures has a unique end node

10   of said decision tree.

15.   A method as in claim 14, wherein said areas are selected automatically.

16.   A method as in claim 14, wherein said areas are selected manually.

17.   A method as in claim 14, wherein said decision tree is created manually.

18.   A method of recording the states of a computer application comprising the

15   steps of:

accessing said computer application;

navigating said computer application; and

recording in a planned domain file each screen of the presentation layer of said

computer application, the keystrokes necessary to reach each state of each screen of said

computer application, the states of each screen, and the effect of any actions taken on each

screen.

5         19.    A method as in claim 18, wherein said computer application is navigated

automatically.

        20.    A method as in claim 18, wherein said computer application is navigated

manually.

        21.    A method of planning a solution to a problem statement comprising the

10    steps of:

receiving a problem statement at a computer system;

accessing at least one computer application model that encapsulates information on

how at least one computer application is controlled and/or data is accessed;

planning a path through said at least one computer application that will achieve the

15    goal of said problem statement; and

executing said path.

        22.    A method of modeling computer applications comprising the steps of:

taking a screen capture of each screen of the presentation layer of a computer

application;

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selecting areas of said screen captures to be examined for the presence of an attribute in said area;

creating a decision tree such that each of said screen captures has a unique end node of said decision tree;

5      accessing said computer application;

navigating said computer application; and

recording in a planned domain file each screen of the presentation layer of said computer application, the keystrokes necessary to reach each state of each screen of said computer application, the states of each screen, and the effect of any actions taken on each 10 screen.

23.      A method as in claim 22, further comprising the steps of:

allowing a user to insert additional relationships and commands into said planned domain file.